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मानक

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IS 12409 (1988): Garden Sword [FAD 21: Farm Implements and Machinery]



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“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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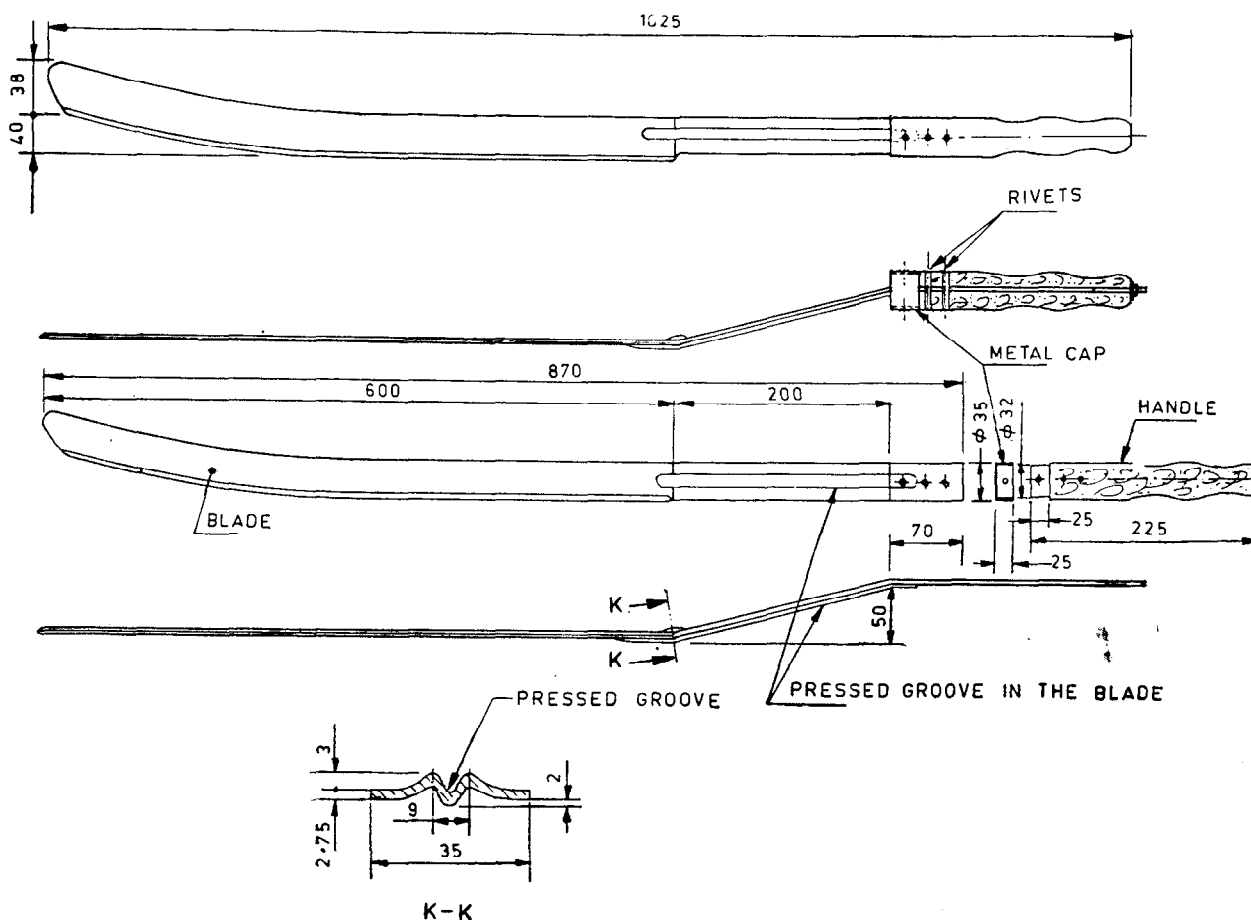


# Indian Standard

## SPECIFICATION FOR GARDEN SWORD

**1. Scope** — This standard specifies material, dimensional and other requirements for garden sword.

**2. Nomenclature** — The nomenclature of various parts shall be as given in Fig. 1.



All dimensions in millimetres.

FIG. 1 GARDEN SWORD

### 3. Material

**3.1 Blade** — The blade of the garden sword shall be manufactured from carbon steel. The chemical composition of the carbon steel shall be as follows:

- a) Carbon — 0.5 to 0.8 percent;
- b) Manganese — 0.5 to 0.9 percent;
- c) Sulphur — 0.05 percent, *Max*; and
- d) Phosphorus — 0.05 percent, *Max*.

Adopted 29 April 1988

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NEW DELHI 110002

**3.2 Handle** — Timber [ see Appendix D of IS : 620-1975 'General requirements for wooden tool handles ( *third revision* )' ] shall be used.

**3.3 Rivets** — Mild steel [ see IS : 226-1975 'Specification for structural steel ( standard quality ) ( *fifth revision* )' ] shall be used.

**4. Hardness** — The blade of the garden sword shall be heat treated up to a distance of 20 mm from the cutting edge and shall have hardness of 370 to 450 HB or equivalent Rockwell or Vickers hardness number.

**5. Dimensions** — The dimensions of blade, rivets and handle shall be as shown in Fig. 1. The tolerance for various dimensions shall be as given in IS : 2102 ( Part 1 )-1980 'General tolerances for linear and angular dimensions ( *second revision* )'.

**5.1** The thickness of the blade at the cutting edge side shall be 0.5 mm and 2.75 mm on the other side. The cutting edge shall be bevelled on one side or both sides.

**5.2** The width of the blade shall be at least 38 mm all along the cutting edge of the blade, and for the rest of the length, it shall be at least 35 mm.

## **6. Other Requirements**

**6.1** The blade of the garden sword shall be forged to shape.

**6.2** The blade shall be firmly fixed to the handle as shown in Fig. 1.

**7. Tests** — The cutting edge of garden sword shall be tested by striking at least 20 hard blows on a suitably shaped dry wood blocks of *Babool*, tamarind or haldu. During and on completion of the test, the cutting edge shall not show any sign of damage.

## **8. Workmanship and Finish**

**8.1** The forging shall be free from cracks, seams, pits, burrs and other visual defects.

**8.2** The rivets shall be countersunk and flushed with the surface of the handle and smoothened.

**8.3** The handle shall be smooth and formed to provide a suitable grip.

**8.4** The exposed metallic parts shall be coated with oil or grease for prevention of rust when not in use. The wooden handle shall be polished or lacquered.

## **9. Marking and Packing**

**9.1 Marking** — Each garden sword shall be marked with the following particulars:

- a) Manufacturer's name;
- b) Batch or code number, if any.

**9.1.1** Each garden sword may also be marked with the Standard Mark.

**Note** — The use of the Standard Mark is governed by the provisions of the Bureau of Indian Standards Act 1986 and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers, may be obtained from the Bureau of Indian Standards.

**9.2 Packing** — The swords may be packed as agreed to between the purchaser and the supplier for safe handling in transit and storage.

**10. Sampling for Lot Acceptance** — Unless otherwise agreed to between the purchaser and the supplier, the method of sampling and criteria for conformity for lot acceptance shall as given in IS : 7201 ( Part 1 )-1987 'Methods of sampling for agricultural machinery and equipment: Part 1 Hand tools and hand operated/animal drawn equipment ( *first revision* )'.

## EXPLANATORY NOTE

Garden sword, a thin metal strip with cutting edge on one side and a handle, is used for cutting the grass normally at standing or bent position. A need was felt to prepare the standard on the subject for providing quality characteristics for sword.

The figure in the standard is given only as a typical illustration(s) and should not be considered as suggestive of any standard design.

In the preparation of this standard, assistance has been obtained from Indian Agricultural Research Institute (ICAR), New Delhi.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off values should be the same as that of the specified value in this standard.